

41
Attorney Docket No. 1652.0006C

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of Johannes Andreas Zaat

Serial No.: 09/817,085

Examiner: Perry, Anthony T.

Confirmation No.: 9828

Art Unit: 2879

Filed: March 26, 2001

For: Electric Lamp Having Aluminum-Silicon Connection Body

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

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TRANSMITTAL OF RESPONSE

Enclosed are the following documents in response to the Office Action mailed September 9, 2003 for the above-identified application:

- | | | |
|-------------------------------------|---|---------------------------------------|
| <input checked="" type="checkbox"/> | Amendment/Response | |
| <input type="checkbox"/> | Petition for Extension of Time | |
| <input type="checkbox"/> | Request for Approval of Drawing Changes | |
| <input type="checkbox"/> | Information Disclosure Statement | |
| <input type="checkbox"/> | Notice of Appeal | |
| <input type="checkbox"/> | Associate Power | |
| <input type="checkbox"/> | Revocation and New Power | |
| <input type="checkbox"/> | Change of Address | |
| <input type="checkbox"/> | Return receipt postcard | |
| <input type="checkbox"/> | Check No. _____ in the amount of \$ | for the total fee as calculated below |
| <input checked="" type="checkbox"/> | Other: Postcard | |

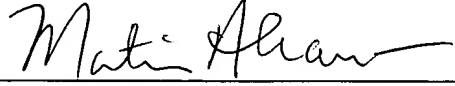
The fee has been calculated as follows:

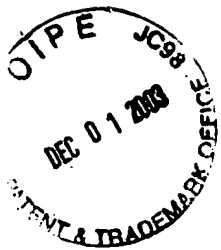
	NO. OF CLAIMS		EXTRA CLAIMS	RATE	FEE
Total Claims	4	- 20 =		x \$18.00	
Independent Claims	1	- 3 =		x \$86.00	
If multiple dependent claims are presented, add \$290.00					
Total Amendment Fee					
<input type="checkbox"/> Applicant claims Small Entity Status (subtract 50% of Total Application Fee)					
Other fees: (specify)					
TOTAL FEE DUE					0.00

- ☐ A check for the total fee is attached.
- ☐ Please charge \$ to Deposit Account No. 05-0460 for the total fee. This paper is being submitted in duplicate.
- ☒ The Commissioner is hereby authorized to charge any additional appropriate fees under 37 C.F.R. §§1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 05-0460.

Dated: 11/26/03

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Respectfully submitted by
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Attorney Docket No.: NL 000160
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the PATENT application of

Johannes Andreas Zaat

Group Art Unit: 2879

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Sir:

Reconsideration of the Office Action of September 9, 2003 is requested.

Claims 2 to 5 are in the application.

The present invention is directed to an improved electric lamp wherein electric contact members in the lamp base and current supply wires are fastened to each other by means of a solidified connection body comprising aluminum-silicon, in particular aluminum plus 5 to 16% by weight of silicon (AlSi). In the structure of the invention, the contact members and current supply wires are fused to the solidified connection body.

The AlSi connection body has a lower melting temperature than substances used for lamp connections in the prior art and thus during manufacture there is less thermal load placed on the base portion, and consequently less risk of deformation and fewer rejects (page 2, lines 4 to 9). In addition, AlSi was found to be resistant to electrochemical corrosion and have a good adhesion/wetting with respect to the base and shell portions (page 2, lines 10 to 13).

Claims 2 to 5 stand rejected as being unpatentable over Vause, U.S. Patent No. 3,885,186 under 35 U.S.C. 103. Vause discloses making a lamp connection with an alloy containing aluminum and silicon in the superplastic state. To render the alloy capable of being superplastic, it is heated to a certain temperature and then rapidly quenched. To actually render it superplastic to make the connection it is heated to a lower value (also below the melting temperature) and slowly cooled. The gist of the rejection is that Vause suggests that a supply conductor is fused “by diffusion” to the solidified connection body during a further annealing process used by Vause on some alloys to prevent possible superplastic behavior of the alloy during the heating caused by lamp service (Vause, col. 5, lines 27 to 33). Jochmann et al., Patent No. 6,276,592 is cited because it discloses a fusion by diffusion process for silicon parts.

The rejection is untenable because it is based on speculation rather than evidence. Thus, the sole purpose of the further anneal disclosed by Vause (col. 5, lines 27 to 33) is to prevent superplasticity from re-appearing when the lamp heats up during service. There is no mention of “fusion”, “diffusion”, or any other such phenomenon taking place. The conditions of the anneal are simply the conditions necessary to prevent further superplasticity, not the conditions necessary to promote “fusion” or “diffusion”.

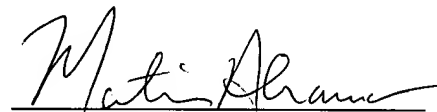
It further appears that the conditions necessary for fusion by diffusion are far different than the conditions necessary for the Vause anneal. Thus, since it is desired to avoid superplasticity, and the only Vause alloy containing silicon is superplastic at 500°C (Example 3 in col. 5 chart), it appears that the temperature would be kept below 500°C. It would certainly be necessary to keep the temperature below 660°C, because this is the melting point of aluminum, and the lamp may have an aluminum shell (present specification, page 3, lines 2 to 7). However, in the fusion by diffusion process described by Jochmann (col. 5, lines 24 to 31) a much higher temperature of 1000°C to 1300°C is required. Additionally, a contact pressing pressure of up to 10N/mm² and a duration of 2 to 4 hours are necessary. No such conditions are disclosed in Vause.

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In view of the above information, it is only conjecture that a type of fusion process is taking place in Vause. The rejection is therefore untenable without concrete evidence that fusion by diffusion is taking place, and in the absence of such evidence the rejection must be withdrawn.

A Notice of Allowance is respectfully solicited.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Martin Abramson", written over a horizontal line.

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Hand Carried: 12-1-03